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ABSTRACT

The suggestion that academic professions ought to be treated as games and that graduate school training should consist of preparation in gamesmanship is in this author's viewpoint, perfectly in keeping with the epistomological revolution. The literature of the 1960's which criticized the scientific world-view is reviewed. Three positions that revolutionaires might take are outlined and a fourth position, a compromise, is offered: that the various modalities of human thought and expression cannot be separated, but that in different sorts of behavior one of the different ways of knowing dominates or leads the others. The conclusion drawn from this position is that graduate training must be concerned with facilitating the development not only of the student's capacity for abstract reasoning but also that of his intuitive modality of thought and expression. A model for reforming the training of future faculty in sociology is based on viewing the academic enterprise as a game, such as football, and the two are compared for use of jargon, complex mathematical models, and rhetoric. Two functions of a game which justify the time and money spent on the sociology game are noted: 1) it keeps a number of capable and energetic men occupied; and 2) it provides an occasion for rare insight into human society. (Author/KSM)

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FACULTY AND THE EPISTOMOLOGICAL REVOLUTION

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Andrew M. Greeley

God, it was alleged, died during the 1960's. Subsequent investigation, however suggests that He probably did not and that, in any case, the Devil is alive and well and is playing with a rock music group. But something did die in the 1960's; though the death was at first a very quiet one, the effects of it are shaking the American academy to its very roots, for what died was the sanctity of the scientific epistomology. The whole counterculture of radical protest, rock music, hallucinogenic drugs, bizarre religious forms, of revolt in the professional associations, and of the communitarian movement all imply a rejection, frequently total, of the scientific world-view. Science is blamed for things that it perhaps ought not to be blamed for--uncontrolled technology, war, pollution, dehumanization, bigotry--but whatever the reasons that are given for calling into question the scientific world-view, increasing numbers of students and junior faculty are questioning what one student of mine called "the epistomological imperialism of science." They are denying that the only, or the only valid, or the only important form of knowledge is that of abstract meaning; and that the only valid mode of human expression is the language which thus conveys abstract reasoning.

The epistomology of positive science has led us to assume one became a scientist essential by repressing, at least in one's scientific activities, all other modalities of knowledge and expression. There was no place in science, we came to believe, for the affective, emotive, ideological, mytho-poetic, metaphysical, and theological styles of cognition and expression. Secular man, presumably the apex of the human evolutionary process, was a man who had been able to exclude from his life all other forms of cognition besides abstract reasoning. He was the man Dietrich Bonhoeffer had in mind when he wrote that man had "come of age."

In the scientific world-view education was essentially a process of developing the power of abstract reasoning and expression; a process

which was begun in kindergarten and continued to graduate school. The best schools were the ones where the power of abstraction was most efficiently developed or, alternately, the ones where the student's capacity to score well on the tests which purported to measure abilities of abstraction was maximized. Those colleges and universities were said to be the best whose faculty members had the strongest reputations in their professions for their skills in abstract reasoning. The more educated one became, it was assumed, the less one's emotions and intuitions would interfere with the operation of one's reason. The young Ph.D. candidate who was assumed to be virtually a scientist himself, and hence, a student in whom the nonscientific modalities of learning had been most effectively suppressed. Colleges were organized as essentially pre-professional schools for the graduate departments, and the better high schools were organized so as to prepare students for college. Collegians who did not go to graduate school, or those high school students who did not aspire to college were given what was essentially a watered-down version of what their betters received; in other words, a somewhat easier and less demanding training in abstract reasoning. Interestingly enough, many teachers working in high school classes in ghetto neighborhoods or in colleges with open admissions policies for minority groups, report that black students seem to have a much better ear for and facility in poetry, precisely because their preparatory educations were "poorer"; the black students escaped with the poetic instincts we all have as little children relatively more unscathed than is the poetic instinct of a student who has gone to a "better" grammar school or high school.

Even in its heyday, it was clear to some critics of scientific epistomology that it had serious weaknesses. Michael Polanyi, for example, argued persuasively that great inventions are made not by the scientific method, but by "personal knowledge," and especially by the "tacit dimension" of knowledge; that is to say, that capacity of the human intellect to perceive at least tacitly the answer to a question in the very act of asking the question. Thomas Kuhn in his Structure of Scientific Revolutions distinguished between normal science, which was essentially an exercise in

working out the puzzles determined by a preexisting paradigm, and revolutionary science, which consists of the replacing of one paradigm with another. The epistomological assumptions of science were valid enough for puzzle-solving, but quite irrelevant for paradigm creation. In these, Kuhn points out, a man like Lavoisier in his famous sealed note to the French Academy had anticipated by several years mostly on the basis of insight and intuition the discovery of oxygen and the paradigm that he was to elaborate on the basis of that discovery. Lavoisier's discovery, Polanyi would suggest, was the result of personal knowledge and the exercise of the tacit dimension rather than an application of the scientific method.

There were also those who argued that however valid the technique of puzzle-solving might be for the physical and biological sciences, it was scarcely pertinent for the humanities, and probably not for the social sciences either. The attempt of the humanities departments of the great universities, therefore, to imitate the model of the physical sciences was bound to be destructive of any kind of authentically humanistic approach to literature. In the social sciences, the issue is less clear, although many practitioners of the physical sciences apparently even a decade ago were somewhat shocked by the relatively naive notions their colleagues in the social sciences displayed of how physical scientists really worked.

Furthermore, there was a strong tendency among many philosophers of science as well as the more brilliant scholars within the various academic disciplines to raise the question as to whether the qualitative dimensions have been ignored too long in the positivist disciplines. Thus, Claude Levi-Strauss in his study The Savage Mind suggested that there was a convergence between archaic science, which had expressed itself in mythological form, and modern science, which expressed itself in quantitative form. Not everyone would have agreed with Levi-Strauss about such a convergence, but by no means would everyone have disagreed either.

Finally, there was ample proof in the life of the scientific community that scientific dispassion was not altogether absent even from

puzzle-solving activity. Professor Watson's account in The Double Helix of his Nobel prize winning feat made it perfectly clear that a good deal more was involved than just abstract reasoning carried on coolly and dispassionately in the discovery of the double helix. Small wonder that the scientific community was outraged at The Double Helix, for its author had let the secret out of the bag.

Whether it was the weaknesses of the scientific epistomology as perceived from the inside of the enterprise by men like Kuhn and Polanyi or its failures to deliver on its promises of a better world as perceived on the outside by the students in the counterculture was finally responsible for the dethronement of the scientific epistomology is a question which must be left to the historians of science who will write in the future. Nor would anyone claim the scientific epistomology has been driven from the field; like all religious faiths, it will prove very hard to kill, but one can at this point assert that the scientific epistomology is under severe attack, not so much from the right in the form of a traditional battle between science and religion, as from the left. The new critics of science may be to some extent primitives and also to some extent romantics; but they speak not as members of an old establishment, resisting a movement of insurgency, but rather as insurgents attacking what has become for all practical purposes the conventional wisdom. Scientific epistomology has not been driven from the field, but it is likely to have to share that field with vigorous competitors in the years to come.

It seems to me that there are three positions that the epistomological revolutionaries might take:

There is first of all the position of those like Professor Theodore Rozak and Norman O. Brown who for all practical purposes argue for the abandonment of abstract rationality as we now know it. In the scientific, technological culture and the positivist epistomology which underpins it, these radical critics see nothing that is capable or worthy of salvation. Rock music, drugs, and group dynamics are viewed by different schools of the counterculture as worthy replacements for abstract reasoning, and the collection of quantified evidence, and the center of human

cognitive activity. The free school movement and the other forms of "experience" approach to education (at all levels) represents another aspect of the revolt against positivist rationalism. And in the academic professions and especially in the social sciences, research rooted in ideology and oriented towards recording of experience rather than the elaboration of mathematical models has become increasingly popular with graduate students. "Telling like it is" is seen as a valid replacement for the collection of quantified data. While there are obviously degrees and gradations within the counterculture school it is clear that abstract reasoning validated by quantified data is either totally or partially rejected as a "relevant" modality of knowledge. At best in the counterculture scientific reason is reduced to an equal (and not at all a first among equals) of other forms of knowledge and, at worst, it is rejected as hopelessly square.

There is, however, a much more moderate approach to the epistomological revolution. Many of the more senior faculty members are willing to concede that there are other valid forms of knowledge and expression (other "word games") than the scientific--and they will make this concession far less grudgingly than they did in the past. They will further acknowledge that these other modalities of knowledge and expression must be respected, even admitted into the university (provided they keep respectfully at the fringes of the university); however valid and however laudatory such exercises are, they are not to be accorded the title of "science."

Somewhat to the left of such a position is the stand of those who, particularly in the social sciences, are willing to concede that it might not be a bad idea to expose social scientists to metaphysicians, poets, artists, theologians, community organizers, and other "nonscientific" personnel; both on the grounds that the interchange of ideas would be very fruitful and on the grounds that after all we really ought to take a harder look at some of these epistomological issues. It may just be that survey research and mathematical model building are at best a very tenuous way to get at social reality.

I should like to suggest a fourth possibility for reacting to the epistomological revolution; a model which I will freely admit is strongly

influenced by the writings of Polanyi and Kuhn. I am quite skeptical of any model of man which assumes that the various modalities of human thought and expression can be separated one from the other. I am not suggesting merely that "scientific" knowledge ought not to deny the validity of more intuitive modalities of knowledge, nor am I contending merely that the new romanticists are quite wrong when in their enthusiasm they virtually exclude scientific reason altogether. What I am asserting is that when man knows, the whole man knows. A scientist, for example, if he is to be a really effective and creative scientist employs all the modalities of knowing when he is engaged on a scientific enterprise. As my teacher, Professor Harrison White, once remarked, "Science is when man pursues truth with no holds barred." In other words, science is not merely an abstract, tightly disciplined, rational modality of cognition; it is a passionate quest in which man's poetic and myth-making abilities are every bit as much involved as his capacity for abstract reason. Similarly, the poet, or the metaphysician, or even the theologian are more effective not when they exclude scientific reason from their activities, but rather, when, in some fashion or other, they are able to integrate scientific reasoning into their intuitive approach to reality. I am not sure that I am at this point capable of explaining exactly how the poet uses scientific reasoning in the creation of poetry, but I think Polanyi and Kuhn leave us little room for doubt that the scientist uses intuition when he is engaged in a scientific quest. To put the matter even more strongly, for Polanyi, at least, the scientific quest at its best is essentially intuitive, and for Kuhn, the construction of paradigms as the most important of all scientific activity is also intuitive.

My assumption, then, is that the difference between the various human cognitive and expressive activities is not that in poetry one excludes all reason and in science one exludes all poetry, but rather that in different sorts of behavior, one or the other different "ways of knowing" acts as

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[1]From the secure perspective of Ph.D.s in sociology and astrophysics.

the "team captain" (to use an image from football which will probably outrage philosophers). It is as though there is an eleven man team, and on the offense the quarterback c the signals, while on defense, the middle linebacker; but the whole team is involved. In poetry, intuition calls the signals; in science, abstract reason calls the signals, but in both activities the whole of man's capacity to know is to be involved if the activity is to be maximally effective.

If there is any validity in this model of mine, it would follow that the educational experience, if it is to have its greatest impact on the development of the student's powers of abstract thought and expression, can ill afford to ignore, much less repress, the affective and volitional dimensions of his personality. Education is not only an experience of reason, but it is also an experience of poetry and of passion; and the teacher, therefore, must be not only a man of reason but a man whose reason is integrated with passion and poetry, a man who can create myths and see visions as well as a man who can solve puzzles. I would further argue that the integration of poetry, passion, myth-making, and reason is as much required for the scientific research as it is for the teacher. Indeed, one very much doubts that the kind of scientist that I describe could possibly avoid being a teacher, or that the teacher I describe could possibly avoid being a scientist. In both instances, the passion, and poetry, and playfulness of his personality would compel him to seek out the other activity.

It would therefore follow that the graduate experience, whether it is designed to produce the teacher, or the scientist, or the man who combines both roles, must be profoundly concerned about facilitating not only the development of the student's capacity for abstract reasoning, but also the development of the future faculty member's intuitive modality of thought and expression. The good sociologist, in other words, must have about him a touch of the poet, a touch of the myth-maker, and a touch of the metaphysician.

The weird part about it is that of course the really great sociologists that we know are just that kind of man. But one must assert that they are that kind of man not because of their graduate school training,

not because of the standards of their profession, not because of the criteria on which decisions of hiring and promotion are made, but despite all of these things. The poet, the metaphysician, the mystic, has survived inside the social scientist because he was far too powerful for the social science graduate school to kill.

But it sure as hell tried.

One must reckon that the chances that the established academic professions will accept either my model or its conclusions are thin; if one once makes the concession that scientific research is an art that is most effectively practiced by men who are poets as well as reasoners, then a good deal of the paraphernalia and the bureaucratic superstructure of the academic community might have to go out the window. Yet, to speak of my own discipline, I do not see how anyone can participate in the creation of a survey research questionnaire and doubt that it is both a craft and an art. To view questionnaire construction as "scientific" in the classical meaning of that word is to indulge in the most fanciful of myth-making, and no matter how many elaborate mathematical models one creates out of the data from such questionnaires, no matter how profoundly "scientific" these data appear when they are presented on the pages of the American Sociological Review, no matter how impressive are the significance tests at the bottom of the tables, one can only with some difficulty forget the fact that the models are based on data that has been collected through a survey instrument which in the classical meaning of the word "science" is dreadfully unscientific. In other words, the most sophisticated mathematical model is built not on scientific foundation, but on an artistic one. It seems to me that sociology would be much better off if it cheerily accepted that fact and faced the implications for its self-image inherent in such a recognition.

But how does one train faculty members to be men of poetry, passion, and playfulness? The question is not an easy one to answer because even those of us who ask it have had a good deal of our passion, and poetry, and playfulness crushed by the graduate school and by the academic life (which may be one of the reasons why we grow so angry in our political debates, be they within our department or on the podium of national politics).

I will confess that at the present writing I can much more readily say what is wrong with arts and science graduate school training than I can say how to proceed, particularly since the revolution must affect the whole of American education, though one suspects that almost necessarily the revolution will have to begin at the graduate school level and filter down, if only because the graduate schools are still the kingpins of the American educational system.

It may be that the "now" generation of graduate students, so restless with "establishment" faculty members and dried up and obsolete, not to say "irrelevant," graduate schools, will take the lead in a revolution to modify the training of future faculty. However, it would be some time before the "now" generation exercises any major control in graduate departments and whether then they will be as "radical" as they are now is a matter that still remains to be seen. Furthermore, one looks in vain among most of these young would-be revolutionaries for much in the way of a positive and creative program for training faculty members. Experience on picket lines, or working in the inner city, or attending therapy sessions seems to be the only replacement they have in mind for the present academic requirements. It may take yet another generation of graduate students to perceive that man's knowing capacities, both scientific and intuitive, are not necessarily improved at all by such experiences.

However, I would like to suggest as a model for those who wish to think about the reform of faculty training that we might quite profitably consider the academic enterprise as a game.

Sociology has its complex, though frequently meaningless, language but professional football has its "look-ins," its "red dogs," its "safety blitzes," and its "audibles." Sociology has its extraordinarily complex mathematical models, so much so that some pages in recent issues of the professional journals look like a diagram that Vince Lombardi might have put on a blackboard in the Green Bay Packer, or now the Washington Redskin dressing room. Sociology has its myths about validity and reliability but the professional football heroes have their "game plans." Mr. Andrew

Weigert, in his article "The Immoral Rhetoric of Scientific Sociology," is upset about the "in" references in footnotes but surely they are no more "in" than the constant commentary of the pro football announcers. Sociologists may take themselves with dreadful seriousness but so, for that matter, do Roman Gabriel, Len Dawson, and even the redoubtable Joe Kapp. Finally, while there certainly is a soteriological strain in sociology, if it's not soteriology that's going on as the forces of good battle the forces of evil on a Sunday afternoon in the autumn, then it's something remarkably like soteriology.

The point is that it would be immoral if one really believed that survey questionnaires, high-flown theoretical rhetoric, and complex mathematical models really got at reality, save in the most tenuous way; but if people believed that then they would be serious about sociology and it would cease to be a game. We must of course pretend to be serious, because games are not fun unless they are "taken seriously," but we all know that games take place in a world of "let's pretend" and "make believe." Of course, we want desperately to win the game but we still realize that it is only a game.

A young sociologist could protest that many of the social scientists he knows seem to think that their enterprise is more than "make believe" or "let's pretend," that they don't act like they realize it's a game. Alas, we must confess that he would be right and such spoil-sports may take much of the fun out of the game. However, they're still a minority and it can be counted on that they will not go very far in their professional careers.

Thus, only in a game could the number of times one is cited in the footnotes of the American Sociological Review or the American Journal of Sociology be taken as an indication of excellence. Only in a wildly hilarious game could it be pretended that anything gets accomplished at the meetings of the American Sociological Association. And only in the unbelievably far out game can the principle be accepted that really important things are written about in the sociological journals. However, the point is that all

of these things are great fun and Mr. Weigert's accusation and morality could easily spoil the fun.

He might object that if it's only a game it is even more immoral because of the vast amounts of time and money that are poured into it. However, as Huizinga has pointed out, play is the basis, or at least one of the bases, for the growth of human culture so it may well be that by investing resources in the sociological game society might actually be contributing, though in minor fashion, to the expansion of human culture by making it possible for a substantial number of men to enjoy playing the game. Furthermore, there are a number of latent functions which the game has which is well worth the relatively trivial percentage of the national income that goes into it:

1. The game keeps busy a number of men with restless energy, highly developed capacities of articulation, and mildly messianic instincts. If it weren't for the sociological game, they would have to do something else. They might even become social workers. The poor and the oppressed are spared that by the existence of the sociological game. Or they might choose to go into elective politics (as a number of Roman Catholic priests have done as part of their current crisis of identity). Surely Mr. Weigert knows enough about the capacity of the average sociologist to perform well in the political caldron of the university department to know that their entering into public life would be an unqualified disaster for the Republic.

2. Furthermore, we know of no better way of providing an occasion with a rare insight into human society that is really important and really useful than by allowing the game to go on. Admittedly, the game is an inefficient way of producing insights--particularly, since it's rarely in fact oriented toward such production--but it's the only good way that is available to us in sociology or any other professional discipline for that matter.

But, finally, one might protest that at least when sociologists pose as advisers on matters of public policy then the game becomes immoral because it has become dangerous. Alas, I fear that things are not at all

that apocalyptic. Granted that sociologists as advisers on public policy are rarely in a position to make sound recommendations, the awful truth is that neither is anyone else and that the sociologists' recommendations for public policy are not likely to be any more disastrously wrong than other recommendations which the policy makers receive. Indeed, it may even be possible to argue that sociologists' recommendations, because they are generally either obscure, impractical, or both, actually do less harm than most of the recommendations the harried and harassed political leaders of the nation receive daily.

The suggestion that academic professions ought to be treated as games and that graduate school training should essentially be preparation in "gamesmanship" is, I think, perfectly in keeping with the epistomological revolution. There are those who will argue that the pursuit of knowledge and the education of the young is far too serious to be treated as a game, to which I would reply, obviously under the influence of G. K. Chesterton, such activities are too serious to be treated as anything else but games. But one must say more than that; not only are they games, but they are games that can best be played at the side of a swimming pool.